PROC. BIOL. SOC. WASH.
100(2), 1987, pp. 257–261

TRACHELYOPTERICHTHYS ANDUZEI, A NEW SPECIES OF AUCHENIPTERID CATFISH FROM THE UPPER RÍO ORINOCO OF VENEZUELA WITH NOTES ON *T. TAENIATUS* (KNER)

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Abstract.—A new catfish species of the Neotropical siluriform family Auchenipteridae is given the name *Trachelyopterichthys anduzei.* This species can be distinguished from all other auchenipterids by the irregularly distributed brown spots on the dorsal and lateral surfaces of the body and by a unique combination of vertebral and fin ray meristics. Sexual dimorphism of the anal fin and dorsal fin spine is documented in *Trachelyopterichthys taeniatus.*

The auchenipterid catfish genus *Trachelyopterichthys* was created by Bleeker (1862) to accommodate Kner's (1858) *Trachelyopterus taeniatus,* a species then known only from its holotype. *Trachelyopterichthys taeniatus* remains a poorly known fish, being represented by only a handful of specimens in museums. Little has been written about this species due to the dearth of material available for anatomical studies.

Recent collecting in the Río Orinoco system of Venezuela has uncovered another species of this genus, again from a unique specimen. Studies associated with the description of this new species and the recent importation of specimens of *T. taeniatus* into the U.S. aquarium fish trade led to the discovery of previously unknown sexually dimorphic characters in *Trachelyopterichthys.*

Materials and methods.—Vertebral counts include all rib-bearing centra but do not include any of the anterior, complex-centrum elements without ribs.

The following institutional abbreviations are used below: AMNH, American Museum of Natural History; NMW, Naturhistorisches Museum, Vienna; MCZ, Museum of Comparative Zoology, Harvard University; MZUSP, Museu de Zoologia da Universidade de São Paulo, Brazil; MBUCV, Museo de Biologia, Instituto de Zoología Tropical, Universidad Central de Venezuela, Caracas.

Trachelyopterichthys anduzei, new species
Fig. 1

Holotype.—MBUCV V-14627, 139.5 mm standard length, male; Venezuela: Territorio Federal Amazonas; Río Orinoco, Laguna de Carida, at the mouth of Caño Carida, Justa Fernandez and Edgar Armas, 28 Apr 1981.

Diagnosis.—A species of *Trachelyopterichthys* most readily distinguishable from the only other species in the genus, *T. taeniatus,* by a pigmentation pattern consisting of an irregular series of dark spots scattered over the body and caudal fin. Additional characters which distinguish these two species are noted under "Remarks."

Description.—Meristic values of the holotype are presented in Table 1. Head depressed, broad; depth at pectoral-fin base half of its width; fontanelle ovoid, completely contained within frontals. Nostrils widely separated, anterior nostril tubular, posterior with an opercular flap on anterior margin, above eye. Eye obscure, completely covered with skin, less than snout length. Barbels in three pairs, maxillaries extending to dorsal-fin origin, inner mentals short, reaching only to more posteriorly placed

Fig. 1. *Trachelyopterichthys anduzei,* new species, holotype MBUCV V-14627.

outer mentals, outer mentals reach posteriorly to pectoral-fin base. Teeth in both jaws conical, in bands of seven to eight irregular rows. No teeth on vomer or palatines. Lower jaw protruding slightly.

Dorsal fin with narrow base, base one-third of head length; fin spine pungent, with single row of feeble denticles along anterior midline; posterior and lateral margins smooth, except for fine grooves running parallel to long axis. First branched dorsal ray extending beyond spine, fin margin rounded; tip of appressed spine just reaches to vertical line through pelvic-fin origin. Adipose dorsal fin absent.

Pectoral fin with pungent spine, spine length equals distance from snout tip to pectoral-spine origin, spine with approximately equal numbers of serrae on both margins. Anterior serrae antrorse, progressively larger distally; posterior serrae retrorse, all of approximately equal length. Dorsal and ventral surfaces of spines with fine parallel grooves, without granulations, first branched ray slightly longer than spine, rays becoming progressively shorter posteriorly.

Pelvic fins broadly rounded, branched rays 3 to 5 longest; appressed fin rays reaching past anal-fin origin.

Anal fin with branched rays of approximately equal length, posterior three shorter. Posterior margin rounded; appressed fin rays not reaching to caudal fin base.

Caudal fin emarginate, middle rays only a little shorter than lateral principal rays; lobes broadly rounded, dorsal lobe slightly longer than ventral.

Cleithral spine long, acutely pointed; reaching to beneath dorsal-fin origin; directed posterodorsally; lateral surface covered with rows of fine rounded nodules of uniform size.

Lateral line canal undulating posteriorly from beneath dorsal fin, becoming less wavy posteriorly; cephalic lateral line canal ossifications of the preopercular and infraorbital series wholly contained beneath skin and lack granulations.

Pigmentation in ethanol.—Head brown dorsally, white on underside, except for brown lower jaw margin. Body dark brown dorsally, progressively lighter ventrally, abdomen white. Fins brown except for dorsal and posterior margins of dorsal fin, posterior half of pectoral fins, unbranched pelvic ray and anterior and distal margins of anal fin white; brown areas of caudal fin, ventral and anal fin bases, and dorsal and lateral surfaces of body, with scattered dark brown spots 3 mm or less in diameter; spots largest and most concentrated on dorsal half of lateral body surface.

Etymology.—The patronymic species epithet is for Dr. Pablo Anduze, former governor of the Territorio Federal Amazonas, Venezuela, for his continued interest in the

natural history of the Amazonian region of Venezuela.

Remarks.—*Trachelyopterichthys anduzei* differs from its congener in quite a number of characters. The pigment pattern of *T. taeniatus* consists primarily of a series of alternating black and white stripes running the length of the body. All fin ray counts except the caudal differ between the two species (Table 1). The dorsal fin origin is proportionally further posteriorly in *T. anduzei* than in *T. taeniatus* (29 vs. 23% of standard length (SL), respectively).

The dorsal spine of *T. anduzei* has but a single anterior row of feeble serrae, whereas in *T. taeniatus* several rows of stout, blunt tubercles cover the anterior and lateral surfaces. The pectoral spine of *T. taeniatus* is also more heavily ornamented, with an irregular patch of small rounded serrae proximally on its ventral surface, and an accessory row of pointed serrae both dorsal and ventral to the anterior edge of the spine. In larger individuals, serrae are more prominent and more widely distributed on the dorsal and ventral surfaces.

The cleithral process of *Trachelyopterichthys anduzei* has shorter, more uniformly-sized tubercles and is more acutely pointed than in *T. taeniatus*. The enlarged series of tubercles along the dorsal surface of the cleithral process of *T. taeniatus* is unlike that of any other auchenipterid species.

Relationships.—The genus *Trachelyopterichthys* belongs to a subgroup of the family Auchenipteridae defined by several derived characters, among which are an expanded lateral ethmoid and an accessory basibranchial cartilage (Ferraris, pers. obs.). Within this group, *T. anduzei* shares three additional derived characters with *T. taeniatus*: an elongate anal fin with greater than 38 rays, a high vertebral count, and the absence of an adipose fin. The first two characters are unique within the aforementioned subgroup of the Auchenipteridae. The absence of an adipose fin occurs in a number of auchenipterid species, including all known species of *Trachelyichthys, Epapterus,* and *Trachelyopterus*. Indeed, this character was the basis for the inclusion of *T. taeniatus* in *Trachelyopterus* by Kner (1858). The hypothesis that an adipose dorsal fin is primitively present in catfishes and lost several times within this group has been supported recently by Vari and Ortega (1986). Pending the outcome of a broader study of the relationships among auchenipterid catfishes (Ferraris, in prep.), it is assumed that the absence of an adipose fin in *Trachelyopterichthys* is not a shared derived character of a larger group but is, instead, a synapomorphy for these two species.

Table 1.—Meristics of *Trachelyopterichthys anduzei* holotype and *T. taeniatus*. Number of specimens examined is listed in parentheses.

	T. anduzei holotype	*T. taeniatus*
Dorsal-fin rays	II,5	II,4 (6)
Pectoral-fin rays	I,8	I,8 (6)
Ventral-fin rays	i,10	i,12–14 (6)
Anal-fin rays	iii,36	iii,49–55 (5)
Caudal-fin rays	i,7,8,i	i,7,8,i (5)
Vertebrae (rib bearing/total)	11/46	7–9/47–50 (5)

Sexual dimorphism in Trachelyopterichthys taeniatus.—Britski (1972) noted sexual dimorphism in the anal fin and the placement of the urogenital pore in *Trachelyopterichthys*. Anterior anal-fin rays of females are of the same length and thickness as those following. In males, the last unbranched ray and the first two branched rays are both longer and slightly thicker than those immediately posterior. There is, however, no evidence of modification of the rays or their supporting elements as was found in *Epapterus blomhi* (Vari et al. 1984), *Entomacorus gameroi* (Mago-Leccia 1984), and a number of other auchenipterid species. In most adult male auchenipterid species, including *T. taeniatus,* the urogenital pore is located at the distal tip of the anterior margin of the anal fin in contrast to the enlarged pore anterior to the anal fin base in females.

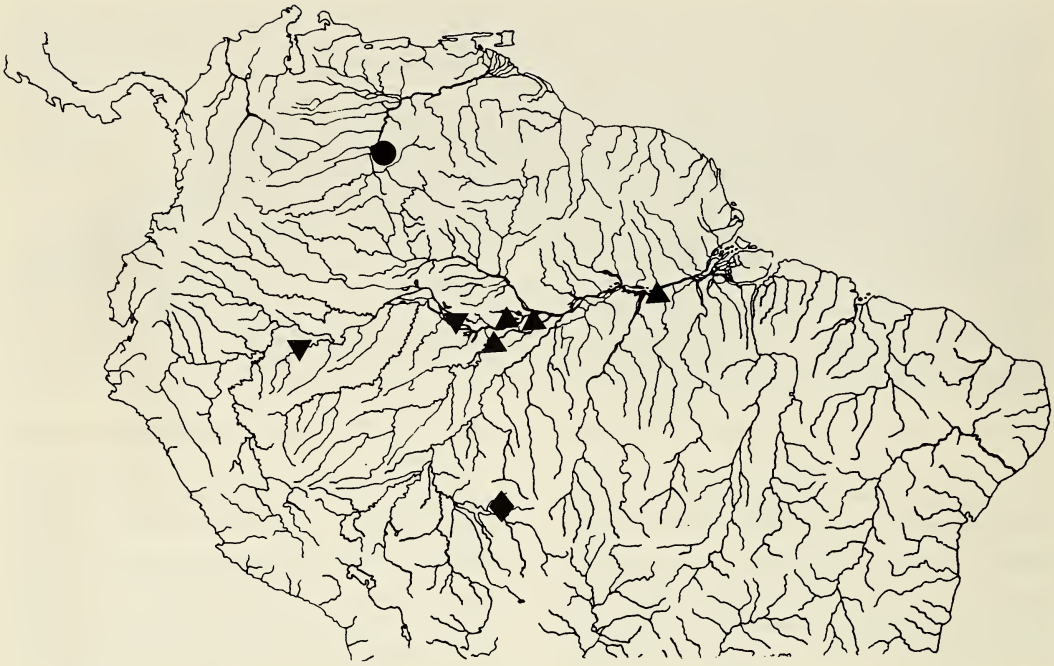

Fig. 2. Geographic distribution of *Trachelyopterichthys anduzei* (●) and *T. taeniatus*: holotype (◆), examined specimens (▼), and literature records (Britski 1972) (▲).

In *Trachelyopterichthys taeniatus* there is, in addition, a clear difference in the length and serration pattern of the dorsal spine. The spine in females and immature males is between 35% and 43% of the predorsal length and it lacks serrations on the posterior margin. Substantially longer (60–69%) spines with a single series of strong, recurved serrae on the distal half of the posterior margin were observed in two males.

Distribution.—*Trachelyopterichthys anduzei* was collected in the Río Orinoco, and is therefore, the first record of this genus outside of the Río Amazonas basin. *Trachelyopterichthys taeniatus* was described from a specimen from the Río Guaporé (Kner 1858). Additional material collected from the Thayer expedition (Eigenmann and Eigenmann 1890), and specimens housed at MZUSP (Britski 1972) all originate from the Río Amazonas and Río Solimões (Fig. 2).

Relevant material examined.—*Trachelyopterichthys taeniatus*: NMW 43346, holotype, Río Guaporé; MCZ 36189, 1 male, Lake Hyanuary; MCZ 8132, 1 female, Teffé; MCZ 7731, 1 female, Teffé; AMNH uncat., 3 aquarium specimens.

Acknowledgments

Research associated with this study was supported in part by funding from the IESP Neotropical Lowland Research Program of the Smithsonian Institution. Dr. Karel Liem and Mr. Karsten Hartel (MCZ), Dr. Barbara Herzig and Mr. Harald Ahnelt (NMW) and Drs. Antonio Machado-Allison and Francisco Mago-Leccia (MBUCV) allowed us to examine specimens in their care. Lee Finley and Ginny Eckstein donated the aquarium specimens to the American Museum of Natural History. The assistance of these people and organizations is greatly appreciated.

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